Building AMERICA

U.S. Department of Energy

Case Study

Modular and Manufactured Houses Offer Homeowners the Building America and ENERGY STAR® Advantage

Genesis Homes — Auburn Hills, Michigan

Building America is sponsored by the U.S. Department of Energy. The program aims to:

- Reduce energy use by 50% and reduce construction time and waste
- Improve indoor air quality and comfort
- Encourage a systems-engineering approach for design and construction of new homes
- Develop system cost/performance tradeoffs that improve housing quality and performance without increasing cost
- Conduct cost-shared research to accelerate development and adoption of innovative building systems.

Genesis Homes, headquartered in Michigan with 11 factories throughout the nation, has committed to quality designs, construction practices, and building materials in its modular and manufactured homes. Part of this commitment has been to work with the Building America Industrialized Housing Partnership (BAIHP) to build energy-efficient homes that qualify for ENERGY STAR labeling.

Buyers Recognize ENERGY STAR® Homes

ENERGY STAR for homes is a marketing program operated cooperatively by the U.S. Department of Energy and the Environmental Protection Agency to help consumers choose energy-efficient houses and other products, such as appliances and lights. The well-known ENERGY STAR logo benefits Genesis Homes and other builders by providing a way for them to prove that their products meet quality standards. When builders, such as Genesis, display the ENERGY STAR label, they are assuring consumers that they will be purchasing homes with energy efficiency, comfort, and reduced operating costs. Homes with the ENERGY STAR label offer more home, for less money, than standard homes.

Genesis Homes and Building America

The key to ENERGY STAR is quality construction and materials. Genesis and Building America have worked together to achieve these performance levels. BAIHP sent researchers to Genesis factories to evaluate ENERGY STAR potential and suggest ways of improving performance, specifically targeting improved duct systems. BAIHP performed design analysis for the prototype show home, built in North Carolina, to qualify the home for the ENERGY STAR program. This home is the same model as the home presented in the 2002 International Builders' Show in Atlanta, Georgia.

Genesis Homes/PIX10801

Building America helped Genesis Homes qualify this home for ENERGY STAR.

ENERGY STAR homes incorporate reliable and established technologies and building practices that require 30% less energy for heating, cooling, and water heating than homes built to the Model Energy Code. These technologies and practices save the owners of ENERGY STAR homes money on their utility bills, while also providing a home that's more comfortable, more durable, good for the environment, and cheaper to own. Buyers can pocket the monthly cost savings, or put them to work in the form of purchasing more home or additional options.

Genesis is taking the extraordinary step of training its own staff to build and rate all of its homes to ENERGY STAR levels. Genesis has made a quality commitment to its homes, distributors, consumers, and the environment.

Visit Genesis Homes at www.genesishomes.com

BUILDINGS FOR THE 21ST CENTURY

Buildings that are more energy-efficient, comfortable, and affordable ... that's the goal of DOE's Office of Building Technology, State and Community Programs (BTS). To accelerate the development and wide application of energy efficiency measures, BTS:

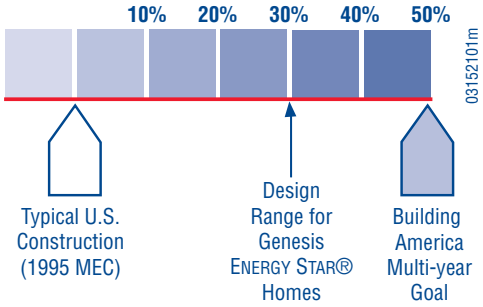
- Conducts R&D on technologies and concepts for energy efficiency, working closely with the building industry and with manufacturers of materials, equipment, and appliances
- Promotes energy- and money-saving opportunities to builders and buyers of homes and commercial buildings
- Works with state and local regulatory groups to improve building codes, appliance standards, and guidelines for efficient energy use
- Provides support and grants to states and communities for deployment of energy-efficient technologies and practices.

The Approach

Building America's systems-engineering approach unites segments of the building industry that have traditionally worked independently of one another. It forms teams of architects, engineers, builders, equipment manufacturers, material suppliers, community planners, mortgage lenders, and contractor trades. More than 230 different companies make up the five teams of Building America:

- Building Science Consortium (BSC)
- Consortium for Advanced Residential Buildings (CARB)
- Hickory Consortium
- Industrialized Housing Partnership
- Integrated Building and Construction Solutions (IBACOS) Consortium

Building America Performance Goal
(Heating and Cooling Energy Savings)



The Building America teams design houses from the ground up, considering the interaction between the site, building envelope, mechanical systems, and other factors. With this approach, the teams can incorporate energy-saving strategies at little or no extra cost.

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An electronic copy of this document is available on the Building America Web site: www.eren.doe.gov/buildings/Building_America

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